Amendments to the Specification:

Please replace the first paragraph at page 1 beginning at line 6 with the following paragraph:

-- This application is a continuation of Application Serial No. 10/277,307, filed 22 October 2002, now abandoned, which is a continuation-in-part of Application Serial No. 09/832,166, filed 10 April, 2001, now abandoned. --

Please replace the paragraph at page 28 beginning at line 30 to page 29, line 15, with the following paragraph:

-- Turning to FIG. 10, an implementation method is shown for populating the failure mode database 930 of FIG. 9 (or database 140 of FIG. 1) with precursor data for signature matching, and associated probabilities and action suggestions, for application of the present invention to a production run of identical machines that are designed to have on-board self-diagnostic capabilities. An example of such a machine may be an instrumented electric motor. In step 1010, a plurality of the identical machines are instrumented with sensors as they would be in the field. These machines will be run to failure and ruined, in order to discover the various modes of failure of the machine design. Therefore, a sufficiently large number should be used to provide some statistical measure of the likelihood of each failure mode and to provide sufficient representative precursor data for each failure mode. In step 1015, data collection is performed as the instrumented machines are run through routine operational ranges. In step 1020, at least some of the data (preferably from early operation of the machines, before they begin to degrade) is captured for use in building the reference library for the empirical model, if that method of monitoring is to be used. In step ~~923~~, 1023 the machines are all run to failure, and data is captured from the sensors as they fail. --